

## How to Write the Discussion Section of a Research Paper

- Article
- Writing

The discussion section of a research paper analyzes and interprets the findings, provides context, compares them with previous studies, identifies limitations, and suggests future research directions.

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Structure your discussion section right, and you'll be cited more often while doing a greater service to the scientific community. So, what actually goes into the discussion section? And how do you write it?

The discussion section of your research paper is where you let the reader know how your study is positioned in the literature, what to take away from your paper, and how your work helps them. It can also include your conclusions and suggestions for future studies.

First, we'll define all the parts of your discussion paper, and then look into how to write a strong, effective discussion section for your paper or manuscript.

**Discussion section: what is it, what it does**

The discussion section comes later in your paper, following the introduction, methods, and results. The discussion sets up your study's conclusions. Its main goals are to present, interpret, and provide a context for your results.

### **What is it?**

The discussion section provides an analysis and interpretation of the findings, compares them with previous studies, identifies limitations, and suggests future directions for research.

This section combines information from the preceding parts of your paper into a coherent story. By this point, the reader already knows why you did your study (introduction), how you did it (methods), and what happened (results). In the discussion, you'll help the reader connect the ideas from these sections.

### **Why is it necessary?**

The discussion provides context and interpretations for the results. It also answers the questions posed in the introduction. While the results section *describes* your findings, the discussion *explains* what they say. This is also where you can describe the impact or implications of your research.

#### ***Adds context for your results***

Most research studies aim to answer a question, replicate a finding, or address limitations in the literature. These goals are first described in the introduction. However, in the discussion section, the author can refer back to them to explain how the study's objective was achieved.

#### ***Shows what your results actually mean and real-world implications***

The discussion can also describe the effect of your findings on research or practice. How are your results significant for readers, other researchers, or policymakers?

### **What to include in your discussion (in the correct order)**

A complete and effective discussion section should at least touch on the points described below.

#### **Summary of key findings**

The discussion should begin with a brief factual summary of the results. Concisely overview the main results you obtained.

#### ***Begin with key findings with supporting evidence***

Your results section described a list of findings, but what message do they send when you look at them all together?

Your findings were detailed in the results section, so there's no need to repeat them here, but do provide at least a few highlights. This will help refresh the reader's memory and help them focus on the big picture.

Read the first paragraph of [the discussion section](#) in this article (PDF) for an example of how to start this part of your paper. Notice how the authors break down their results and follow each description sentence with an explanation of why each finding is relevant.

#### ***State clearly and concisely***

Following a clear and direct writing style is especially important in the discussion section. After all, this is where you will make some of the most impactful points in your paper. While the results section often contains technical vocabulary, such as statistical terms, the discussion section lets you describe your findings more clearly.

### **Interpretation of results**

Once you've given your reader an overview of your results, you need to interpret those results. In other words, what do your results mean? Discuss the findings' implications and significance in relation to your research question or hypothesis.

#### ***Analyze and interpret your findings***

Look into your findings and explore what's behind them or what may have caused them. If your introduction cited theories or studies that could explain your findings, use these sources as a basis to discuss your results.

For example, look at the second paragraph in [the discussion section](#) of this article on wagglng honey bees. Here, the authors explore their results based on information from the literature.

#### ***Unexpected or contradictory results***

Sometimes, your findings are not what you expect. Here's where you describe this and try to find a reason for it. Could it be because of the method you used? Does it have something to do with the variables analyzed? Comparing your methods with those of other similar studies can help with this task.

### **Context and comparison with previous work**

Refer to related studies to place your research in a larger context and the literature. Compare and contrast your findings with existing literature, highlighting similarities, differences, and/or contradictions.

#### ***How your work compares or contrasts with previous work***

Studies with similar findings to yours can be cited to show the strength of your findings. Information from these studies can also be used to help explain your results. Differences between your findings and others in the literature can also be discussed here.

#### ***How to divide this section into subsections***

If you have more than one objective in your study or many key findings, you can dedicate a separate section to each of these. [Here's](#) an example of this approach. You can see that the discussion section is divided into topics and even has a separate heading for each of them.

### **Limitations**

Many [journals require](#) you to include the limitations of your study in the discussion. Even if they don't, there are good reasons to mention these in your paper.

#### ***Why limitations don't have a negative connotation***

A study's limitations are points to be improved upon in future research. While some of these may be flaws in your method, many may be due to factors you couldn't predict.

Examples include time constraints or small sample sizes. Pointing this out will help future researchers avoid or address these issues. This part of the discussion can also include any attempts you have made to reduce the impact of these limitations, as in [this study](#).

### ***How limitations add to a researcher's credibility***

Pointing out the limitations of your study demonstrates transparency. It also shows that you know your methods well and can conduct a critical assessment of them.

### **Implications and significance**

The final paragraph of the discussion section should contain the take-home messages for your study. It can also cite the “strong points” of your study, to contrast with the limitations section.

### ***Restate your hypothesis***

Remind the reader what your hypothesis was before you conducted the study.

### ***How was it proven or disproven?***

Identify your main findings and describe how they relate to your hypothesis.

### ***How your results contribute to the literature***

Were you able to answer your research question? Or address a gap in the literature?

### ***Future implications of your research***

Describe the impact that your results may have on the topic of study. Your results may show, for instance, that there are still limitations in the literature for future studies to address. There may be a need for studies that extend your findings in a specific way. You also may need additional research to corroborate your findings.

### **Sample discussion section**

This fictitious example covers all the aspects discussed above. Your actual discussion section will probably be much longer, but you can read this to get an idea of everything your discussion should cover.

*Our results showed that the presence of cats in a household is associated with higher levels of perceived happiness by its human occupants. These findings support our hypothesis and demonstrate the association between pet ownership and well-being.*

*The present findings align with those of Bao and Schreer (2016) and Hardie et al. (2023), who observed greater life satisfaction in pet owners relative to non-owners. Although the present study did not directly evaluate life satisfaction, this factor may explain the association between happiness and cat ownership observed in our sample.*

*Our findings must be interpreted in light of some limitations, such as the focus on cat ownership only rather than pets as a whole. This may limit the generalizability of our results.*

*Nevertheless, this study had several strengths. These include its strict exclusion criteria and use of a standardized assessment instrument to investigate the relationships between pets and owners. These attributes bolster the accuracy of our results and reduce the influence of confounding factors,*

*increasing the strength of our conclusions. Future studies may examine the factors that mediate the association between pet ownership and happiness to better comprehend this phenomenon.*

This brief discussion begins with a quick summary of the results and hypothesis. The next paragraph cites previous research and compares its findings to those of this study. Information from previous studies is also used to help interpret the findings. After discussing the results of the study, some limitations are pointed out. The paper also explains why these limitations may influence the interpretation of results. Then, final conclusions are drawn based on the study, and directions for future research are suggested.

### **How to make your discussion flow naturally**

If you find writing in scientific English challenging, the discussion and conclusions are often the hardest parts of the paper to write. That's because you're not just listing up studies, methods, and outcomes. You're actually expressing your thoughts and interpretations in words.

- How formal should it be?
- What words should you use, or not use?
- How do you meet strict word limits, or make it longer and more informative?

Always give it your best, but sometimes a helping hand can, well, help. Getting a professional edit can help clarify your work's importance while improving the English used to explain it. When readers know the value of your work, they'll cite it. We'll assign your study to an expert editor knowledgeable in your area of research. Their work will clarify your discussion, helping it to tell your story. Find out more about AJE Editing.

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